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ABSTRACT

The Architectural and Transportation Barriers Compliance Board is responsible for developing accessibility guidelines under the Americans with Disabilities Act of 1990, including play facilities. This report provides a section-by-section analysis of the proposed guidelines, and exceptions, for play areas. Guidelines include ground and elevated level play components; accessible routes; clear width and height; ramps, handrails, and transfer systems; maneuvering space; reach ranges; accessible surfaces; and soft-contained play structures. Definitions of play area terms conclude the report. (GR)

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REGULATORY NEGOTIATION COMMITTEE ON ACCESSIBILITY GUIDELINES FOR PLAY FACILITIES

ED 426 576

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FINAL REPORT

JULY 1997

Background

The Architectural and Transportation Barriers Compliance Board (Access Board) is responsible for developing accessibility guidelines under the Americans with Disabilities Act of 1990 (ADA) to ensure that new construction and alterations of facilities covered by titles II and III of the (ADA) are readily accessible to and usable by individuals with disabilities.<1> The Access Board initially issued the Americans with Disabilities Act Accessibility Guidelines (ADAAG) in 1991 (36 CFR part 1191, Appendix A). ADAAG consists of general sections (ADAAG 1 to 4) that apply to all types of buildings and facilities, and special application sections (ADAAG 5 to 12) that contain additional requirements for certain types of buildings.<2>

Under the ADA, the Department of Justice is responsible for issuing regulations to implement titles II and III of the Act. The regulations issued by the Department of Justice must include accessibility standards for newly constructed and altered facilities covered by titles II and III of the ADA. The standards must be consistent with the accessibility guidelines issued by the Access Board. The Department of Justice has adopted ADAAG as the Standard for Accessible Design for title III of the ADA. (28 CFR part 36, Appendix A).<3>

Titles II and III of the ADA cover a wide variety of recreation facilities such as boating and fishing facilities, golf courses, parks, places of amusement, play areas, sports facilities, and trails. Newly constructed and altered recreation facilities are required to comply with ADAAG, as adopted by the Department of Justice as the Standards for Accessible Design, where the provisions can be applied. For example, parking areas, entrances, and toilet rooms that are part of newly constructed and altered recreation facilities must comply with ADAAG. Some recreation facilities have unique features for which additional provisions and special application sections need to be developed. The Access Board convened a Recreation Access Advisory Committee (RAAC) in July 1993 as the first step in developing the additional provisions and special application sections. The RAAC issued a report in July 1994 which addressed the various types of recreation facilities and identified the features of each facility type that are not adequately addressed by ADAAG. The RAAC made recommendations for developing accessibility

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guidelines for those features.

The Access Board published an Advance Notice of Proposed Rulemaking (ANPRM) in September 1994 requesting public comment on the RAAC's recommendations. The public comments expressed support for many of the RAAC's recommendations. However, the public comments also revealed a lack of consensus on some major issues regarding play areas among interests that potentially would be affected by accessibility guidelines for those facilities. Consequently, the Access Board decided to develop a special application section for play areas through regulatory negotiation. Regulatory negotiation is a supplement to the traditional rulemaking process that allows for face-to-face negotiations among representatives of affected interests, including the agency, with a goal of arriving at a consensus decision on the text of a proposed rule. The proposed rule is then published in the Federal Register and the public has an opportunity to comment. Based on public comments received, the final rule may differ from the proposed rule.

The regulatory negotiation committee on accessibility guidelines for play areas was established in March 1996. A notice of intent to form a regulatory negotiation committee was published in the Federal Register on December 22, 1995. This notice proposed a committee membership and requested comments on the establishment of the committee and the proposed membership. Two groups were added to the proposed committee: National Parent-Teacher Association and ASTM Playground Surfaces Task Group. The final membership of the committee included:

- American Society of Landscape Architects
- ASTM Public Playground Committee (F15.29)
- ASTM Soft Contained Play Committee (F15.36)
- ASTM Playground Surfaces Task Group
- International Play Equipment Manufacturers Association
- National Association of Counties
- National Association of Elementary School Principals
- National Child Care Association
- National Council on Independent Living
- National Easter Seal Society
- National League of Cities
- National Parent-Teacher Association
- National Recreation and Park Association
- Spina Bifida Association of America
- TASH
- United Cerebral Palsy Associations
- U.S. Access Board

The committee met seven times between March 1996 and July 1997 as a full committee. In addition, several workgroups met to gather information or develop recommendations for the full committee. Committee members sought input from the public on issues related to accessibility in play areas. The meetings were held in different locations across the country and were attended by over 250 members of the public. A formal public comment period was held at the end of each day of the full committee meetings. In August 1996, the committee met in the suburbs of Minneapolis, Minnesota. As a part of this meeting, the committee participated in a day long tour of playground sites, representing the various elements under the discussion of the committee. In October 1996, the committee met in conjunction with the National Recreation and Park Association Annual Congress. This meeting was attended by over 100 members of the public. All committee meetings were facilitated by the Federal Mediation and Conciliation Service. An interest based model of negotiation was used during the negotiations.

The committee began its deliberations examining available information related to providing access for children with disabilities in play areas. The committee relied heavily upon three documents: the Recreation Access Advisory Committee (RAAC) Recommendations for Accessibility Guidelines for Recreational Facilities and Outdoor Developed Areas (July 1994), the ASTM F 1487-95 Public Playground Equipment Safety Standard, and the Recommendations for Accessibility Standards for Children's Standards for Children's Environments Technical Report (July 1992). This technical report was based on a research project conducted for the Access Board by the National Center on Accessible Housing, North Carolina State University.

The committee identified basic principles to guide its negotiations. The committee believed that accessibility guidelines should:

- Be based on children's anthropometric dimensions and other resource information.
- Be based on children with disabilities using a variety of assistive devices.
- Provide opportunity for use by children who have a variety of abilities.
- Support social interaction and encourage integration.
- Create challenge, not barriers.
- Provide advisory information to assist designers, operators, and owners, to effectively incorporate access into their designs. Information should be in an understandable format.
- Maintain safety consistent with ASTM requirements.
- Be reasonable in terms of cost relative to benefit.
- Be based on independent use, as much as possible.
- Address access for parents and care givers.
- Provide access to elevated structures. Additional ground level accessible play components may be required, depending on the type of vertical access provided to elevated structures.

The regulatory negotiation committee reached consensuses on the accessibility guidelines for newly constructed and altered play areas covered by the ADA. Committee members represented the diverse interests of those affected by this rulemaking including persons with disabilities, owners and operators of play areas, State and local governments, designers, manufacturers, and voluntary standard groups. Where safety, cost, and access interests conflicted, consensus was difficult. Committee members explored many approaches and compromised in many areas to reach agreement on minimum accessibility guidelines for play areas.

Section-by-Section Analysis

This section of the preamble contains a summary of the proposed guidelines for play areas. The text of the proposed rule follows this section.

16. PLAY AREAS

Definitions

This section defines terms used in the proposed rule. To avoid potential confusion, terms and definitions already established within the industry have been used to the greatest extent possible.

The term "play area" is defined as a portion of a site containing play components designed and constructed for children in a specified age range as designated by ASTM F 1487-95. ASTM F 1487-95 recommends that play areas designed for children 2-5 years old and children 5-12 years old be separated. Where play areas are designed and constructed for specified age groups, each play area is required to meet the requirements in section 16.

The term "play component" is defined as an element intended to generate specific opportunities for play, socialization, or learning. The committee carefully reviewed definitions established by the industry and the Recreation Access Advisory Committee in developing this definition. The committee wanted the proposed definition to address the variety of play components. The committee considered elements that generate specific opportunities for play, socialization, or learning. Elements that provide experiences such as sliding, swinging, rocking, spinning, climbing, crawling, pretending, and bouncing, are considered play components. Conversely, elements not specifically intended for play, socialization, or learning such as ramps, decks, steps, transfer systems, and roofs are not play components.

Play components may be manufactured or natural. Examples of natural play components include children's gardens and land forms designed to create gathering places. Manufactured play components may be stand-alone or a part of a composite structure. Spring rockers and sand tables are generally placed in stand-alone locations. Manufactured composite structures often combine slides, climbers, and activity panels on one unit. Landscape architects and other designers supported including natural elements in the description of play components. They were concerned that the definition would focus solely on manufactured play equipment.

A "composite play structure" is defined as two or more play components attached or functionally linked to create an integrated unit that provides more than one play activity. The committee intends this definition to clarify that composite structures include play components combined to provide multiple play experiences. The manner in which play components are combined is not relevant so long as they are functionally linked. When individual parts of a composite structure act as a single unit, they are considered functionally linked, even if the parts are not physically attached to the structure. Examples may include a balance beam that may not be attached to the main structure, but serves as a play opportunity adjoining the main play structure. Although not physically attached, the balance beam allows the child to progress from one structure to another.

An "elevated play component" is defined as a play component that is part of a composite play structure and approached above or below grade. A stand alone slide, for example, would not be considered an elevated play component since it is not part of a composite play structure and is not approached above or below grade.

A "ground level play component" is a play component that is approached and exited at the ground level. Stand alone slides, balance beams, swings, and spring rockers are examples of ground level play components. Although portions of a ground level play component may be elevated, the key element of this definition is that the play component (slide, balance beam, swing, or a spring rocker) is approached and exited at the ground level.

The proposed definition of "use zone" includes the ground level area beneath and immediately adjacent to a play structure or equipment that is designated for unrestricted circulation around the equipment and on whose surface it is predicted that a user would land when falling from or exiting the equipment. This definition is consistent with the ASTM definition, except that the term "ground level" is added to clarify that the area beneath a play structure or equipment includes the ground level area. Designers and operators sometimes use the term "fall zone" to identify the "use zone".

The term "soft contained play equipment" is defined as a play structure made up of one or more components where the user enters a fully enclosed play environment that uses pliable material(s) (e.g., plastic, netting, fabric). These structures are often associated with fast serve restaurants and other retail establishments and differ from most play areas found in parks and schools. Soft contained play areas are fully enclosed environments designed for users to enter the structures at various entry points. This

definition was developed in cooperation with the ASTM Soft Contained Play Committee F 15.36.

16.1 Play Areas

This section applies to each play area designed for children ages two and over and requires compliance with the applicable provisions in this section. The application of these guidelines is consistent with the ASTM Public Playground Equipment Standard F 1487-95 which establishes safety standards beginning at age two.

The committee considered developing accessibility guidelines for children under the age of two years. It did not, however, believe that there was sufficient information available to establish guidelines for accessible play areas for children with disabilities in this age group. The committee also considered that regardless of disability, many children in this age group need assistance in using a play area. The absence of safety guidelines or standards for this age group was also recognized. While specific accessibility guidelines have not been developed for play areas for children under the age of two, these areas are covered by the ADA and the Department of Justice title II and title III regulations.

Several technical provisions are proposed that include a range of dimensions, which permits a designer to consider the primary user population served. The voluntary safety standard, ASTM F 1487-95, recommends play areas to be separated by age groups. Specifically, this standard recommends play areas designed for children 2-5 years old and 5-12 years old to be separated. These proposed accessibility guidelines also consider areas designed for these age groups to be separate play areas even if they are in the same facility.

The committee recognizes the value and importance of innovation in the design of play area surfaces and components. It is expected that new devices, technologies, and creativity will result in play area innovations not seen today. These changes are invited and welcome. ADAAG Section 2.2 (Equivalent Facilitation) permits "departures from particular technical and scoping requirements" where the result will provide substantially equivalent or greater access to and usability of the facility. Section 2.2 applies to every section in ADAAG, including proposed section 16 Play Areas.

16.1 Exception 1

Exception 1 to this section refers to the requirements of ADAAG 4.1.6 (Alterations). This exception permits play equipment to be relocated to create safe use zones without triggering the alterations requirements of ADAAG 4.1.6, if the surface is not changed or extended for more than one use zone. Many existing play areas are considered unsafe because of the close proximity of the various pieces of play equipment. This situation is commonly addressed by moving play equipment apart and extending the impact attenuating (also referred to as "resilient") surfaces to create a safe use zone.

The committee has proposed this exception to minimize the potential cost impact of creating safer play areas, while balancing the need for accessibility for children with disabilities. This exception has been limited to surface changes that are not more than one use zone. The use zone of playground equipment is defined in ASTM F 1487-95 and generally requires a six foot radius of resilient surfacing underneath play equipment, except for swings and slide exits. The committee proposed that any surface alteration or change beyond one use zone be subject to the alteration requirements of ADAAG 4.1.6.

16.1 Exception 2

Exception 2 to this section permits the use of platform lifts (wheelchair lifts) complying with ADAAG 4.11 and applicable State or local codes as part of an accessible route within a play area. The committee

proposed that platform lifts be permitted so that they may be used in newly constructed play areas that may have unique environments where ramp access may not be feasible. The committee considered the use of platform lifts in play areas similar to the use of platform lifts on an accessible vertical route to a performing area in an assembly occupancy as permitted by ADAAG 4.1.3 Exception 4.

16.1 Exception 3

Exception 3 to this section exempts play areas from complying with the provisions for protruding objects in ADAAG 4.4. ADAAG 4.4 generally requires that elements mounted along circulation paths not project more than 4 inches, if the leading edge is above 27 inches and below 80 inches. The committee carefully considered the unique environments of play areas. In many cases, eliminating protruding objects from all circulation paths may have the effect of substantially altering the nature and design of a play area. The committee discussed several approaches to providing access for children who are blind or visually impaired, and the effect on the nature or design of a play area. The committee proposed that at least one accessible route be free of protruding objects. Section 16.1.3.1 requires that objects shall not protrude into the accessible route for a height of 80 inches measured from the surface. Because accessible routes must maintain a clear minimum unobstructed width, this requirement will provide at least one route within the play area that is clear of protrusions.

16.1.1(1) Ground level play components

Paragraph 1 of this section requires one of each type of ground level play component to be accessible. The technical requirements for an accessible play component are addressed in 16.1.5. The committee proposed this requirement to give children with disabilities a choice of at least one of each of the different types of play components provided at the ground level. Swings, climbers, and spring rockers are examples of the different types of play components often found at the ground level in a play area. Providing choice and variety in play areas can facilitate social growth and interaction among children. The committee considered requiring all of the ground level play components to be accessible, however, it concluded that the additional cost may be prohibitive. Requiring at least one of each type to be accessible is also consistent with other ADAAG provisions where multiple elements serving the same function and in the same location are provided.

16.1.1(2)

Paragraph 2 of this section requires accessible ground level play components to be provided in a number equal to at least 50% of the total number of elevated play components. The committee added paragraph 2 as a result of its discussion related to providing vertical access to elevated play components. The committee wanted to provide additional accessible ground level play components based on the total number of elevated play components provided. Elevated play components that are only accessible to children who are able to or chose to transfer have limited play value for children who are unable to or chose not to transfer. This provision is an attempt to provide children with disabilities additional opportunities where only transfer access is provided to elevated play components.

This provision permits accessible ground level play components required by paragraph 1 to satisfy this requirement. For example, if ten elevated play components are provided, a total of five ground level play components must be accessible under paragraph 2. If three different types of ground level play components are provided, paragraph 1 would require each of the three types to be accessible. Paragraph 2 would require an additional two ground level play components to be accessible for a total of five.

16.1.1(2) Exception

The committee proposed an exception to this requirement when ramp access is provided to each elevated play components. Under this exception, additional accessible ground level play components are not required, when each elevated play component can be accessed by a ramp. Since children using wheelchairs and other mobility devices would have access to the entire structure, additional accessible play components are not required at the ground level.

16.1.1(3)

Paragraph 3 of this section requires accessible ground level play components to be integrated in the play area. In some play area designs, accessible play components are grouped into one area. These designs have the effect of segregating children with disabilities. Under the ADA, segregation of people with disabilities is not permitted. The committee agrees that ground level accessible play components be integrated throughout the play area. This provision is critical to promote social interaction among children with and without disabilities.

16.1.2 Elevated Play Components

This section requires at least 50% of all elevated play components to be accessible. Since elevated play components are often the most popular elements of a play area for children, the committee wanted to ensure that children with disabilities have adequate opportunities to use them. The committee also considered 50% appropriate given the types of elements provided on composite structures. For example, an elevated composite structure with ten play components may include two slides, four climbers, and four activity panels. Using this example, at least five of the elevated components must be accessible. Section 16.1.2 allows the designer and operator to decide which elevated play components will be accessible.

The committee debated this requirement at great length. The committee frequently heard from members of the public who were concerned with the costs associated with providing an accessible route, as well as those concerned with ensuring a variety of accessible elevated play components. Section 16.1.3 (Accessible Route) addresses the requirements for an accessible route connecting accessible elevated play components.

The committee found a requirement for the integration of accessible elevated play components to be unnecessary since integration should occur naturally due to the number of elevated play components required to be accessible. Moreover, the committee recognized that designs using a single point of entry to access a number of elevated structures may be cost effective.

16.1.3 Accessible Routes

This section requires at least one accessible route within the boundary of a play area. Auxiliary pathways may also be provided throughout a play area. These other pathways are not required to be accessible and may incorporate changes in level and varying slopes.

The accessible route is required to connect accessible play components, including entry and exit points. Access to both entry and exit points is required to ensure usability by children with disabilities. This provision, applied to an accessible slide, will require an accessible route, with accessible surfacing, serving the entry and exit points of the slide. The committee recognized that many children with disabilities will require some assistance in moving mobility aids to the exit points of accessible play components. This provision will also provide access to parents and care givers with disabilities.

Entry and exit points of accessible play components may be on the ground level or be elevated. The committee carefully considered when access by ramp, transfer system, and other means should be

provided to elevated play components. Committee members examined how the RAAC approached the issue of providing ramp access to elevated structures. The RAAC differentiated between larger and smaller structures, based on the number of elevated play components provided. During the comment period of the ANPRM, commenters supported the concept of differentiating between larger and smaller play structures, however, there was no consensus on the number of elevated play components that should trigger a requirement for ramp access.

Like the RAAC, the committee used an approach that differentiates between play areas based on the numbers of elevated play components. They contrasted the relative cost of providing a ramp system and transfer system with the total cost of the structure and the amount of area required. Ramp access costs always exceeded the costs of transfer access. For example, the cost of providing a transfer system to 3 feet above the ground is approximately 6 - 10 percent of the cost of a ramp system. For the ramp to be cost effective, the committee proposed to require ramp access only on larger structures that contain 20 or more play components.

16.1.3 Exception 1

Exception 1 permits accessible elevated play components to be connected by transfer systems, where less than 20 elevated play components are provided. This exception is based on the committee's consideration of the cost impact and available area. The committee was concerned that ramp access to smaller structures might result in a reduction in the number of play components that can be purchased within a specified budget.

To illustrate the application of the exception, a play structure with 18 elevated play components is required to provide at least 9 (50% minimum) accessible elevated components by 16.1.2. The exception would permit these accessible elevated components to be connected by a transfer system. Of course, ramp access is also permitted.

Where a transfer system is used to connect accessible play components on an elevated structure, an accessible play component may be used to connect to another accessible play component. For example, a transfer system may connect to an accessible crawl tube. Additional accessible play components complying with 16.1.5, may be located at the end of an accessible crawl tube on an elevated structure.

16.1.3 Exception 2

Exception 2 permits no more than 50% of accessible elevated play components to be connected by transfer systems, where 20 or more elevated play components are provided. To illustrate this application of this exception, a play structure with 24 elevated play components is required to have at least 12 (50% minimum) accessible elevated play components by 16.1.2. Assuming that 12 accessible elevated play components are provided, exception would permit no more than 6 of these play components to be connected by a transfer system. The other 6 play components must be connected by ramps. Of course, ramp access is also permitted to all accessible elevated play components.

As discussed in 16.1.3 Exception 1, where a transfer system is used to connect accessible play components on an elevated structure, an accessible play component may be used to connect to another accessible play component. For example, a transfer system may connect to an accessible crawl tube. Additional accessible play components complying with 16.1.5 may be located at the end of an accessible crawl tube on an elevated structure.

16.1.3 Exception 3

This exception does not require handrails at ramps located in the use zone of a play area. The committee considered this an important safety precaution because obstacles such as handrails cannot be in these areas where it is predicted that users may fall.

16.1.3.1 Clear Width and Height

This provision requires the accessible route to be a minimum of 60 inches wide and to be clear of protrusions at or below 80 inches above the surface. The committee has proposed a minimum 60 inch width for the accessible route for several purposes. Since this may be the only area where accessible surfacing is required, the committee considered a minimum 60 inch width necessary for adequate maneuvering space. This route will support and encourage interaction on the play area between children with and without disabilities. Unlike typical interior environments, the minimum width established in this provision is likely to be the only width requirement. For example, corridors in office buildings tend to be far wider than the minimum 36 inches required for accessible routes. Designers and landscape architects consider the minimum 60 inch width requirement necessary so that children may maneuver freely and pass each other without meeting transition points or edges between loose fill and firm surfaces. This requirement is also consistent with the recommendations of the RAAC and ASTM F 1487-95.

16.1.3.1 Exception 1

Exception 1 permits the use of a minimum 44 inch wide accessible route in play areas less than 1,000 square feet, provided that there is at least one turning space complying with ADAAG 4.2.3 where the route exceeds 30 feet in length. The committee proposed this exception based on concerns expressed by the child care industry regarding smaller facilities. Many child care facilities, including family day care homes, are often limited in the amount of space to designate for play. Concerns were raised about the potential impact of a wider accessible route in reducing the number of play components provided at smaller facilities. The committee has proposed this exception to address these concerns.

16.1.3.1 Exception 2

Exception 2 permits the width of the accessible route to be reduced to a minimum 36 inches for a maximum distance of 60 inches. This reduction in the width of the accessible route is permitted, if multiple segments are separated by 60 inch wide minimum segments that are at least 60 inches in length. The committee considered an occasional reduction in the minimum clear width necessary to accommodate obstacles such as trees and boulders in the play area. Because the accessible route also serves as a play area, any reduction in the clear width affects opportunities for socialization and interaction. Therefore, the committee developed these minimum criteria for spacing the narrowed segments and to ensure that adequate turning space is provided between narrowed segments of the accessible route.

16.1.3.1 Exception 3

Exception 3 permits the width of an elevated accessible route to be a minimum of 36 inches. Elevated accessible routes may include ramps between the ground and elevated structures, or ramps between elevated structures. This is consistent with the recommendations from the RAAC and ASTM F 1487-95. The committee considered a minimum 36 inch width to be appropriate for elevated structures where features such as edge protection and handrails typically are provided. Commonly available manufactured products will comply with this provision.

16.1.3.1 Exception 4

Exception 4 permits the clear width of the elevated accessible route to be reduced to 32 inches minimum for a maximum distance of 24 inches. This proposed exception is consistent with existing ADAAG sections 4.2.1 and 4.13.5.

16.1.3.2. 1 Ramp Slope

This section requires ramps provided within the boundary of a play area to meet the requirements of ADAAG 4.8, with some modifications. Ground level accessible routes may not exceed a slope of 1:16. The committee proposed this requirement for several reasons. Initial concerns were raised about the ability of children with disabilities to move around within the play area where there is no limitation on the length of the accessible route connecting accessible play components. A more gradual slope requires wheelchair users and many others to expend less energy to traverse a distance. Additionally, proposed 16.1.3 Exception 3 does not require handrails on ramps in a use zone. Since ramps in the use zone will not have handrails, the committee considered this another reason for limiting the slope of the accessible route on the ground level. Additionally, preliminary information regarding some artificial or synthetic surfaces shows that they may perform more efficiently where slopes are gradual.

16.1.3.2.2 Ramp Rise

This provision requires that any ramp run have a maximum rise of 12 inches. The RAAC recommended that there be a 12 foot limitation on the length of a ramp run to limit the distance between landings and other areas where children gather on a structure. The committee has proposed a maximum rise, rather than run, for ramps. This solution limits distance without increasing slopes unnecessarily. The committee believed that limiting ramp run is important to promote interaction between children with and without disabilities. ASTM F 1487-95 also uses a 12 foot limitation on ramp runs to discourage inappropriate and unsafe use of ramps.

16.1.3.2.3 Handrail Height

This section requires ramp handrails to be provided 20 inches minimum to 28 inches maximum above the ramp surface. This height is considered appropriate for children. This is not an additional handrail requirement. Instead, the committee proposed that handrails are only provided to serve children. This range is based on a research project sponsored by the Access Board.

16.1.4 Transfer systems

Section 16.1.3 permits some accessible elevated play components to be connected by a transfer system complying with 16.1.4.

The transfer system provides one method of reaching the play equipment and is designed for use by children with disabilities who can transfer from their wheelchair or mobility device. Similar transfer systems are used to provide access into swimming pools. Manufactured transfer systems for play areas have been available since 1990. The transfer system consists of two components, a transfer platform and transfer steps. The transfer platform serves as an entry platform and is provided at a height that allows wheelchair users to transfer from wheelchairs. Transfer steps are designed to facilitate movement above or below the platform to accessible play components.

16.1.4.1 Transfer Platforms

16.1.4.1.1 Size

This section requires transfer platforms to have a level surface 14 inches minimum in depth and 24 inches minimum in width. This minimum size requirement allows for adequate space for transferring and maneuvering. The committee based this size requirement on the recommendations of the RAAC and ASTM F 1487-95. Transfer platforms can be designed in unique shapes such as a triangle, if the minimum clear space is provided.

16.1.4.1.2 Height

This section requires the transfer platform to be 11 inches high minimum to 18 inches maximum above the ground or floor surface. The committee proposed a height range to allow designers flexibility to design for the intended age group and to accommodate existing manufactured composite play structures. It is also consistent with ASTM F 1487-95 and recommendations from the RAAC, and within the range of transfer height for other functions requiring transfer such as toileting.

16.1.4.1.3 Transfer Space

This section requires a level, clear and unobstructed space complying with ADAAG 4.2.4 to be provided along a 24 inch minimum side of the transfer platform. An unobstructed side of a transfer platform is necessary to permit a transfer. A level, clear space allows space for a stationary wheelchair adjacent to the transfer platform. Transfer steps connected below the platform may be used to facilitate access closer to the ground or floor surface. However, transfer steps shall not be connected to the unobstructed side of the platform.

16.1.4.1.4 Transfer Supports

This section requires a means of support to be provided for transferring. Such means may consist of a gripable edge of the transfer platform or some other element that provides a means of support. The committee agreed that this was integral to the process of transferring, but did not have sufficient information or technical data to require a specific location for the transfer support.

Question 1. What types of transfer supports are most effective in facilitating transfer? What is the most effective placement and why?

16.1.4.2 Transfer Steps

16.1.4.2.1 Size

This section requires transfer steps to comply with 16.1.4.1.1 Thus, the transfer step and platform are required to be the same minimum size. This regularity is important as the function of the step and platform are similar; serving as a deck to sit and push off of to move around. Transfer steps provide the opportunity for a child to ascend to the next level on an elevated structure.

16.1.4.2.2 Height

This provision requires a transfer step to be 8 inches high maximum. A maximum height is necessary to ensure use by children with disabilities in their movement from a transfer platform to an accessible play component. The 8 inches coincides with knee to foot range measurements and the maximum distance for children to move from step to step.

16.1.4.2.3 Transfer supports

Similar to the requirement for the transfer platform, this section requires a means of support for transferring to be provided. Such means may consist of a gripable edge of the transfer step or some other element that provides a means of support. Transfer supports are also important to support the effort involved in moving from a transfer platform to an accessible play component. The accessible play component will often be located above the level of the transfer platform and may require movement over a series of transfer steps. (See Question 1).

16.1.5 Accessible Play Components

This provision includes technical requirements for accessible play components. The committee examined what features of a play component make it accessible. Initially the committee focussed on individual play components and developed draft provisions for components such as climbers, spring rockers, and swings. Through this detailed examination, the committee identified features critical to make play components accessible for children with a variety of disabilities. These key features included clear space adjacent to the play component, maneuvering space on the same level as the play component, providing manipulative and interactive features of the play component within the reach of children with disabilities, and having the entry point or seat at an appropriate height for transfer, and with transfer supports. The identification of these features provided the basis for the proposed technical provisions of this section. Establishing the general features will provide more flexibility to designers, and also should guide the development of emerging technologies and play component designs.

16.1.5.1 Maneuvering Space

This section requires maneuvering space to be provided on the level of the accessible play component. This maneuvering space is necessary so that children with disabilities can negotiate within a play area. This provision requires the space to be on the same level as the accessible play component that it serves. Maneuvering space shall have a slope not steeper than 1:48 in all directions. Except for swings, the maneuvering space is not required to be located adjacent to the accessible play component. The committee considered the location of the maneuvering space critical for use of a swing. This maneuvering space is required to be located at the swing to facilitate both transfer onto the swing and to allow space for a parent or care giver to assist children. Consistent with existing ADAAG requirements, maneuvering space and clear space may overlap.

16.1.5.1 Exception

This exception eliminates the requirement for maneuvering space on elevated structures with transfer access only. These systems are designed for movement on the structure without a wheelchair, therefore the maneuvering space is not needed.

16.1.5.2 Clear Floor or Ground Space

This provision requires a clear floor or ground space at accessible play components. This space is required to comply with ADAAG 4.2.4 which provides space for a stationary wheelchair or mobility device. This space is important for the use of play components. Since each play component is used differently, designers may choose the appropriate orientation and location of this space. The clear floor or ground space shall have a slope not steeper than 1:48 in all directions.

16.1.5.2 Exception

This exception eliminates the requirement for clear floor or ground space for elevated structures with transfer access only. Accessible clear floor or ground space is not necessary where structures are not

designed to accommodate wheelchairs. Where ramp access is not provided, a transfer system is required.

16.1.5.3 Reach Ranges

This provision specifies reach ranges for heights of manipulative and interactive features of accessible play components. These features may include steering wheels, tic tac toe boards, and other operable equipment provided for use by children with disabilities on accessible play components. This section modifies the reach range requirements of ADAAG 4.2 which are based on adult dimensions and anthropometrics.

The table in this section specifies high and low reach ranges for children according to age: (A) 36 inches high and 20 inches low for ages 2 through 5 and 40 inches high; and (B) 18 inches low for ages 5 through 12. These age ranges correspond to those specified in ASTM F 1487-95. The section of A or B should correspond to the age range of the primary user group served.

16.1.5.4 Height of play components

This provision specifies that when an accessible play component requires transfer, the entry point or seat must be located between 11 inches minimum and 24 inches maximum above the clear ground or floor space. This height is necessary for children using wheelchairs and other mobility devices to transfer onto the play component. The committee based these dimensions on information in a Board sponsored research project that examined seat heights and other elements that are often designed for transferring. The committee used these dimensions, since transfer height is also critical to these elements. A range has been established to avoid conflicts with height requirements of play components designed for movement (rocking, springing, bending).

Play components may be designed without an entry point or seat. In this case, the provisions of 16.1.5.4 do not apply. Swings and spring rockers are examples of play components with seats or entry points. Play components where seats or entry points are not provided include climbers and balance beams.

16.1.5.5 Transfer Supports

Similar to the requirement for the transfer platform and transfer steps, this section requires a means of support for transferring to be provided. Where an accessible play component requires transfer to the entry point or seat, such means may consist of a gripable edge of the play component or some other element that provides a means of support. Transfer supports are also important to support the effort involved in moving from a wheelchair or assistive device to an accessible play component. (See Question 1).

16.1.6 Accessible Surfaces

16.1.6.1

This provision requires accessible surfaces located within play areas at ground level to comply with ADAAG 4.5.1 and this section. Surfaces within the play area that are required to be accessible must be firm, stable, and slip resistant and also meet the requirements of the ASTM PS 83 Provisional Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

The committee has proposed to use the ASTM Provisional Standard to measure the accessibility of a surface in a play area. This provisional standard provides a specification for determining the accessibility of the various surfaces used in play areas. The committee agreed to this approach to provide more specific

guidance to operators and designers when selecting surfaces for play areas. Owners and operators are often required to make this determination without sufficient guidance related to the factors that make a surface accessible to people using wheelchairs and other mobility aids.

The ASTM F 08.63 subcommittee has worked since May 1994 to prepare a specification for measuring surfaces to determine accessibility. ASTM's work was done at the urging of the Access Board and others interested in identifying objective methods of measuring the level of accessibility of various surfaces used in play areas. A playground surface would have to meet the specifications in the ASTM provisional standard before it would be considered an accessible surface.

The ASTM provisional standard specifically addresses the issue of "maneuverability". Maneuverability measures the effort needed to move a wheelchair across a surface. The development of this ASTM provisional standard included testing with people with disabilities who use wheelchairs and other mobility devices and was conducted at Beneficial Designs in Santa Cruz, CA. Effort required for turning and straight line movements were measured on different surfaces and slopes. The ASTM provisional standard assumes that the more difficult a surface is to turn and travel across, the less accessible it is. When compared to effort to travel across a very accessible surface, such as concrete, a minimum acceptable level of effort is yielded.

Copies of this ASTM Provisional Standard (PS 83-97) are available through the American Society for Testing and Materials (ASTM) 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Telephone (610) 832-9585.

16.1.6.2

This provision requires accessible surfaces located within the use zone to be impact attenuating and to comply with the ASTM F 1292 requirements for drop testing. The need for play areas to include safe surfaces, which are impact attenuating in case of a fall, is critical for children and for owners and operators. While the committee did not consider the requirement for an impact attenuating surface in a play area to be an accessibility issue, several playground surfaces may be considered accessible but would not meet the requirements for impact attenuation as defined by ASTM. For example, accessible surfaces such as concrete or pavement would not meet the requirements for impact attenuation as defined by ASTM.

There is controversy about which surfaces currently available meet both requirements, impact attenuation and accessibility. Cost is also an important factor. General estimates provided to the committee show large differences in costs between inaccessible loose fill surfaces that are impact attenuating and surfaces considered both accessible and impact attenuating. Sand and other loose fill materials, for example, presently range from approximately $.25 to $1.25 per square foot. However, rubber matting, poured-in-place rubber, and other accessible impact attenuating surfaces, presently range from approximately $6.00 to $20.00 per square foot.

The committee did not propose to require an entire play surface to be accessible because of a variety of considerations. These include a desire to maximize play value, allow for diversity in the play experience, and balance the costs with the benefits. The committee identified those areas where accessible surfacing is necessary so that children with disabilities can use and enjoy play components.

Question 2. Impact attenuating surfaces have been used to cover concrete for safety purposes in play areas. The border between the resilient surface and adjacent surfaces forms a transition between the two surfaces. Some manufacturers have noted difficulty in meeting the requirements of ADAAG 4.5.2 for changes in level and for beveled surfaces. Should there be an exception? If so, under what conditions should the

exception apply?

16.1.7 Handrails

This provision proposes that the diameter or width of handrails be 0.95 inch minimum to 1.55 inch maximum, or a shape that provides an equivalent gripping surface. This requirement will apply to all handrails within the play area. The committee proposed this requirement to be consistent with the ASTM F 1487-95.

16.2 Soft Contained Play Structures

This section requires soft contained play structures to comply with 16.2. Soft contained play structures are designed differently than the more traditional play areas found in parks, schools, and child care centers. They are designed to promote play inside the structure and were originally developed as an alternative to the more open designs to reduce injuries due to falls. Users must fully enter the play system to participate in this opportunity. The play experience is provided largely within the structure and can include elements such as ball pools, slides, climbing nets, and crawl tubes. Children maneuver through the system by crawling, climbing, pulling and sliding.

16.2.1 Access to Entry Points

This section requires that where three or fewer entry points are provided for each structure, a minimum of one entry point shall be on an accessible route. Where four or more entry points are provided, an accessible route is required to at least two entry points. The committee agreed that the proposed accessibility guidelines developed for the more traditional play environments would not be appropriate for soft contained play structures. As a result, the committee proposed requirements to ensure access to the entry points of the soft contained play structures. The committee did not consider the interior space of these structures suitable for wheelchairs or other mobility devices. Additionally, these structures do not include open decks or platforms that would accommodate a wheelchair.

16.2.1 Exception 1

Exception 1 to this section is proposed that permits the use of a transfer system complying with 16.1.4 to be a part of the accessible route connecting the entry points. The committee considered the use of transfer systems appropriate to connect entry points, since the interior space is not suitable for wheelchairs or other mobility devices. For example, a child either independently or with assistance can enter into the system at the transfer point, play in the ball pool, maneuver through the tube, and exit through a slide.

16.2.1 Exception 2

Exception 2 to this section permits the use of platform lifts (wheelchair lifts) complying with ADAAG 4.11 and applicable State or local codes as part of an accessible route for a soft contained play structure. The committee proposed that platform lifts be permitted so that they may be used in newly constructed play areas that may have unique environments where ramp access may not be feasible. The committee considered the use of platform lifts to connect entry points in soft contained play structures similar to the use of platform lifts on an accessible vertical route to a performing area in an assembly occupancy as permitted by ADAAG 4.1.3 Exception 4.

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16. PLAY AREAS.

Definitions.

Composite Play Structure
Two or more play components attached or functionally linked to create an integrated unit that provides more than one play activity.

Elevated Play Component
A play component that is part of a composite play structure and approached above or below grade.

Ground Level Play Component
A play component that is approached and exited at the ground level.

Play Area
A portion of a site containing play components designed and constructed for children in a specified age range as designated by ASTM F 1487-95.

Play Component
An element intended to generate specific opportunities for play, socialization, or learning. Play components may be manufactured or natural, and be stand alone, or part of a composite play structure.

Soft Contained Play Equipment
A play structure made up of one or more components where the user enters a fully enclosed play environment that uses pliable material(s) (e.g., plastic, netting, fabric).

Use Zone
The ground level area beneath and immediately adjacent to a play structure or equipment that is designated for unrestricted circulation around the equipment and on whose surface it is predicted that a user would land when falling from or exiting the equipment as designated by ASTM F 1487-95.

16.1 Play Areas.

16.1 Play Areas. Where provided, each play area designed for children ages 2 and over shall comply with the applicable provisions in section 4, except as modified or otherwise provided in this section.

EXCEPTION 1: This section does not apply to existing play areas where play equipment is relocated to create safe use zones and where the surface is not changed or extended for more than one use zone.

EXCEPTION 2: Platform lifts (wheelchair lifts) complying with 4.11 and applicable state or local codes are permitted to be used as part of an accessible route within a play area.

EXCEPTION 3: The provisions of 4.4 shall not apply within the boundary of the play area.

16.1.1. Ground Level Play Components.

(1) Where ground level play components are provided, at least one of each type shall comply with 16.1.5.

(2) Where elevated play components are provided, ground level play components complying with 16.1.5 shall be provided in a number at least equal to 50% of the total number of elevated play components.

EXCEPTION: Where ramp access is provided to each elevated play component, 16.1.1(2) shall not apply.

(3) Where more than one accessible ground level play components are provided, they shall be integrated in the play area.

16.1.2. Elevated Play Components. Where elevated play components are provided, at least 50% shall comply with 16.1.5.

16.1.3 Accessible Routes. At least one accessible route shall be located within the boundary of the play area and shall connect accessible play components, including accessible entry and exit points of accessible play components, and accessible elements.

EXCEPTION 1: Where less than 20 elevated play components are provided, accessible elevated play components required by 16.1.2 shall be permitted to be connected by a transfer system complying with 16.1.4. See Table 1. An accessible play component may be used to connect to another accessible play component.

EXCEPTION 2: Where 20 or more elevated play components are provided, no more than 50% of the accessible elevated play components required by 16.1.2 shall be permitted to be connected by a transfer system complying with 16.1.4. See Table 1. An accessible play component may be used to connect to another accessible play component.

Table 1

Number of elevated play components provided throughout a play area	**Minimum percentage required to be accessible and accessed by transfer system or ramp**	**Minimum percentage required to be accessible and accessed by ramp**	**Total**
1 - 19	50%	none	50%
20 plus	25%	25%	50%

EXCEPTION 3: Handrails are not required at ramps located in the use zone of a play area.

16.1.3.1 Clear Width and Height. Accessible routes shall be 60 in (1525 mm) minimum clear width. Objects shall not protrude into the accessible route at or below 80 in (2030 mm) above the surface.

EXCEPTION 1: In play areas less than 1,000 square feet, ground accessible routes shall be permitted to be 44 in (1120 mm) minimum clear width. At least one turning space complying with 4.2.3 shall be provided where the accessible route exceeds 30 feet (9.14 m) in length.

EXCEPTION 2: Ground level accessible routes shall be permitted to be 36 in (915 mm) minimum clear width for a distance of 60 in (1525 mm) maximum, provided that multiple 36 in (915 mm) wide segments are separated by segments that are 60 in (1525 mm) minimum in length and 60 in (1525 mm) minimum in width.

EXCEPTION 3: Elevated accessible routes shall be permitted to be 36 in (915 mm) minimum clear width.

EXCEPTION 4: The clear width of elevated accessible routes shall be permitted to be reduced to 32 in (815 mm) minimum for a distance of 24 in (610 mm) maximum.

16.1.3.2 Ramp Slope and Rise. Ramps shall comply with 4.8 except as modified by 16.1.3.2.

16.1.3.2.1 Slope. The maximum slope for ground level accessible routes within the boundary of a play area shall be 1:16.

16.1.3.2.2 Ramp Rise. Where a ramp is a part of an elevated accessible route, the maximum rise of any ramp run shall be 12 in (305 mm).

16.1.3.2.3 Handrail Height. Top of gripping surfaces of handrails shall be 20 in (510 mm) minimum to 28 in (710 mm) maximum above the ramp surface.

16.1.4 Transfer Systems. Transfer systems shall connect levels having accessible play components. Transfer systems shall include transfer platforms complying with 16.1.4.1 or transfer steps complying with 16.1.4.2.

16.1.4.1 Transfer Platforms. Transfer platforms shall comply with 16.1.4.1.

16.1.4.1.1 Size. Platforms shall have a level surface 14 in (335 mm) minimum depth and 24 in (610 mm) minimum width.

16.1.4.1.2 Height. Platform surfaces shall be 11 in (280 mm) minimum to 18 in (455 mm) maximum above the ground or floor surface.

16.1.4.1.3 Transfer Space. A level space complying with 4.2.4 shall be provided along a 24 in (610 mm) minimum unobstructed side of the transfer platform.

16.1.4.1.4 Transfer Supports. A means of support for transferring shall be provided.

16.1.4.2 Transfer Steps. Transfer steps shall comply with 16.1.4.2.

16.1.4.2.1 Size. Transfer steps shall comply with 16.1.4.1.1.

16.1.4.2.2 Height. A transfer step shall be 8 in (205 mm) maximum high.

16.1.4.2.3 Transfer Supports. A means of support for transferring shall be provided.

16.1.5 Accessible Play Components. Accessible play components shall comply with 16.1.5.

16.1.5.1 Maneuvering Space. Maneuvering space shall comply with 4.2.3 and shall be provided on the same level as the play components served. Maneuvering space shall have a slope not steeper than 1:48 in all directions. The maneuvering space required for accessible swings shall be located at the swing.

EXCEPTION: Maneuvering space is not required at accessible elevated play components connected only by a transfer system.

16.1.5.2 Clear Floor or Ground Space. Clear floor or ground space shall be provided at accessible play components and shall be 30 in (760 mm) by 48 in (1220 mm) minimum. Clear floor or ground space shall have a slope not steeper than 1:48 in all directions.

EXCEPTION: Clear floor or ground space is not required at accessible play components connected only by a transfer system.

16.1.5.3 Reach Ranges. Manipulative and interactive features of accessible play components shall be within the reach ranges specified in 16.1.5.3.1

16.1.5.3.1 Forward and Side Reach. The high forward or high side reach, and the low forward or low side reach shall comply with A or B in the table below. Selection of A or B should correspond to the age range of the primary user group.

Forward and Side Reach

	High Reach (not more than)	**Low Reach (not less than**
A Ages 2 through 5	36 in (915 mm)	20 in (510 mm)
B Ages 5 through 12	40 in (1015 mm)	18 in (455 mm)

16.1.5.4 Height of Play Components. Where an accessible play component requires transfer to the entry point or seat, the entry point or seat shall be 11 in (280 mm) minimum and 24 in (610 mm) maximum above the required clear ground or floor space.

16.1.5.5 Transfer Supports. Where an accessible play component requires transfer to the entry point or seat, a means of support for transfers shall be provided.

16.1.6 Accessible Surfaces. Accessible surfaces located within play areas at ground level shall comply with 4.5.1 and 16.1.6.

16.1.6.1 Accessible surfaces located within play areas shall comply with the provisions of ASTM PS 83 Provisional Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment (April 1997).

16.1.6.2 If located within use zones, accessible surfaces shall be impact attenuating and shall comply with ASTM F 1292.

16.1.7 Handrails. Where handrails are provided within a play area, the handrails shall have a diameter or width of 0.95 in (24.1 mm) minimum to 1.55 in (39.4 mm) maximum, or the shape shall provide an equivalent gripping surface.

16.2 Soft Contained Play Structures. Soft contained play structures shall comply with 16.2.

16.2.1 Access to Entry Points. Where three or fewer entry points are provided, at least one shall be located on an accessible route. Where four or more entry points are provided, at least two shall be located on an accessible route. Accessible routes shall comply with 4.3.

EXCEPTION 1: A transfer system complying with 16.1.4 shall be permitted.

EXCEPTION 2: Platform lifts (wheelchair lifts) complying with 4.11 and applicable state or local codes are permitted to be used as part of an accessible route for soft contained play structures.

<1> The Americans with Disabilities Act (42 U.S.C. 12101 et seq.) is a comprehensive civil rights law which prohibits discrimination on the basis of disability. Titles II and III of the ADA require, among other things, that newly constructed and altered State and local government buildings, places of public accommodation, and commercial facilities be readily accessible to and usable by individuals with disabilities.

The Access Board is an independent Federal agency established by section 502 of the Rehabilitation Act (29 U.S.C. 792) whose primary mission is to promote accessibility for individuals with disabilities. The Access Board consists of 25 members. Thirteen are appointed by the President from among the public, a majority of who are required to be individuals with disabilities. The other twelve are heads of the following Federal agencies or their designees whose positions are Executive Level IV or above: The departments of Health and Human Services, Education, Transportation, Housing and Urban Development, Labor, Interior, Defense, Justice, Veterans Affairs, and Commerce; General Services Administration; and United States Postal Service.

<2> The special application sections cover the following buildings and facilities: restaurants and cafeterias (ADAAG 5); medical care facilities (ADAAG 6); business, mercantile and civic (ADAAG 7); libraries (ADAAG 8); transient lodging (ADAAG 9); transportation facilities (ADAAG 10); judicial, legislative, and regulatory facilities (ADAAG 11); detention and correctional facilities (ADAAG 12); accessible residential housing (ADAAG 13); and public rights-of-way (ADAAG 14). A special application section has been proposed for children's facilities (ADAAG 15). See 61 FR 37964 (July 22, 1996).

<3> The Department of Justice's regulations currently include ADAAG 1 to 10. State and local governments currently have the option of using ADAAG or an earlier standard, the Uniform Federal Accessibility Standards (UFAS), when constructing or altering facilities under the Department of Justice regulations for title II of the ADA. (28 CFR 35.151(c)). The Department of Justice has issued a notice of proposed rulemaking to eliminate this option. 59 FR 31808 (June 20, 1994).